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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/003,912	10/31/2001	Frederick W. Giacobbe	S5627	7719

7590 01/22/2004

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EXAMINER	
FORTUNA, JOSE A	

ART UNIT	PAPER NUMBER
1731	

DATE MAILED: 01/22/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/003,912	GIACOBBE, FREDERICK W.	
	Examiner	Art Unit	
	José A Fortuna	1731	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *27 October 2003*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-57* is/are pending in the application.

4a) Of the above claim(s) *8-57* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-7* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *31 October 2001* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

13)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

a) ☐ The translation of the foreign language provisional application has been received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) *012502* .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Election/Restrictions

1. Applicant's election with traverse of group I in Paper filed on October 27, 2003 is acknowledged. The traversal is on the ground(s) that the restriction of groups I, II and III is improper, because the groups are related as combination-subcombination, not as product and process of using as indicated by the examiner. Also that there are not sufficient legal basis for the restriction of inventions of groups I and IV since the Faber-Bosh process does not produce the gas as claimed, but ammonium. Furthermore applicants argue that the examiner support for the restriction of groups II and III is improper, because the examiner cites the same classification for both inventions/groups. This is not found persuasive because of the following reasons:

a) Regarding the combination subcombination of groups I and II-III, this is only applicable if both, i.e., the combination and subcombinations are in the same category of the inventions, i.e., product/product or device/device. Otherwise, the comparison is not based on a common ground, i.e., comparing oranges and apples. This particular restriction combination–subcombination is generally used in the mechanical area, i.e., for apparatus claims. Group I refers to a composition while groups II and III refers to a method of using said composition, which are not in the same category of inventions.

b) As to the legal basis for the restriction of the groups I and IV, because the final product is not the same. The examiner is not referring to the final product, but to the reacting gases, which are the within the claimed range. Note that a product/composition is not evaluated by its intended used. The gases of the Faber-

Bosh process are used differently than in the claimed invention; however, they are the same, see rejection below for more details.

c) As to the restriction of groups II and III since the examiner indicated the same classification for both inventions. The classification of the inventions in class 65/365 is a typographical error and should have been 65/465. However, cooling and heating have acquired different status in the art: heating is classified several class-subclasses e.g., classes 165 and/or 48 and Cooling is classified in class 62. Note that even if they were classified in the same area, the conceptual idea(s) is/are different and had acquired different status in the art. Note also that this argument is moot based on a) and/or b) and the fact that the composition was elected.

Regarding the specie election this is a moot issue since the composition claims, which were elected, do not contain said species.

The requirement is still deemed proper and is therefore made FINAL.

2. Claims 8-58 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected invention, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in Paper Filed on October 27, 2003.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-7 are rejected under 35 U.S.C. 102(b) as being anticipated by Vanco, article in "NASA TN D-2677" and Kirov et al., article in UDC 536.246 and Giacobbe, article in "Applied Thermal energy Vol.18 . . ." all of them cited in the IDS filed on January 25, 2002, and Mogard, US Patent No. 4,822,559 and Baxter et al., US Patent No. 5,173,124.

All of the above prior art teach a mixture of a heavy gas and a lighter gas, said mixture is used as a heat transfer fluid. The heavy and the lighter gases are the same mixture of gases as claimed, i.e., Helium or H_2 as one of the lighter gas(es) and Argon as one of the heavy gas.

Baxter et al teach the mixture of Helium and Argon in the same range as claimed in the dependent claims, see figure 4, column 3, lines 31-49 and, column 5, lines 35-46.

Mogard teaches the mixture of Helium and Argon as a filler gas composition in a nuclear reactor, to reduce the thermal conductivity, i.e., as a heat transfer medium, see column 9, lines 35-53. In the same lines he teaches the ratio of Helium to Argon in the same range as claimed.

Claims 1-7 are rejected under 35 U.S.C. 102(b) as being anticipated by Bhakta, US Patent No. 5,935,544 and Drnevich et al., US Patent No. 5,775,128 and Nicholas et al., US Patent No. 5,202,057 and Nicholas et al., US Patent No. 4,988,490 and Pinto et al., US Patent No. 4,695,442 and Wang et al., US Patent No. 4,792,441 and Pinto, US Patent No. 4,981,669 and Böhm et al., US Patent No. 5,904,913.

All of the above patents teach a mixture of heavy and lighter gases as claimed. All of them except Böhm et al. teach the mixture of Nitrogen, N_2, the heavy gas, and hydrogen, H_2, the lighter gas, in a ratio which falls within the claimed range(s) in the dependent claims, i.e.,

$3H_2/1N_2$, see abstract and claims. Böhm et al. teach a mixture of H_2 and CO_2 with traces of H_2O, see figure 1. None of the references teach the use of the mixture for heat transfer, however it is office position that claims in a patent application cannot be held to involve invention, if the composition defined in such claims is not novel, and of course, patents for old compositions of matter based on a new use of such composition without change therein may not lend patentability to claims. The intended use of an article (composition) is not germane to the patentability of the article (composition). In re Thuau 30 C.C.P.A. 979, 135 F.2D 344, 57 USPQ 324.

A product (composition) is not defined by its intended used, but for the property(ies) of the product (composition) that makes novel and non-obvious over the prior art.

Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure in the art of "Heat Transfer Fluids."

6.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to José A Fortuna whose telephone number is 571-272-1188. The examiner can normally be reached on 9:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steven P. Griffin can be reached on 571-272-1189. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0662.

José A Fortuna
Primary Examiner
Art Unit 1731

JAF